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- Gefahrgutzuschlag
- Expressversand

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# ISYNA1 (m2): 293T Lysate: sc-121125

## BACKGROUND

Myo-inositol is an important constituent of membrane phospholipids and is a precursor for the phosphoinositide signaling pathway. ISYNA1 (inositol-3-phosphate synthase 1), also known as IPS, INO1 or INOS, is a 558 amino acid enzyme belonging to the Myo-inositol-1-phosphate synthase family. Highly expressed in testis, ovary, heart, placenta and pancreas, with weak expression in blood leukocytes, thymus, skeletal muscle and colon, SYNA1 is the key enzyme myo-inositol biosynthesis, as it catalyzes the conversion of glucose 6-phosphate to 1-Myo-inositol 1-phosphate in a NAD-dependent manner. ISYNA1 is the rate-limiting enzyme in the synthesis of all inositol-containing compounds. ISYNA1 may be upregulated by E2F-1, and is inhibited by valproate (VPA) and lithium, which are mood-stabilizing drugs.

## REFERENCES

1. Hegeman, C.E., et al. 2001. Expression of D-Myo-inositol-3-phosphate synthase in soybean. Implications for phytic acid biosynthesis. *Plant Physiol.* 125: 1941-1948.
2. Agam, G., et al. 2002. Myo-inositol-1-phosphate (MIP) synthase: a possible new target for antibipolar drugs. *Bipolar Disord.* 4: 15-20.
3. Seelan, R.S., et al. 2004. E2F1 regulation of the human Myo-inositol 1-phosphate synthase (ISYNA1) gene promoter. *Arch. Biochem. Biophys.* 431: 95-106.
4. Chauvin, T.R. and Griswold, M.D. 2004. Characterization of the expression and regulation of genes necessary for Myo-inositol biosynthesis and transport in the seminiferous epithelium. *Biol. Reprod.* 70: 744-751.
5. Ju, S., et al. 2004. Human 1-D-Myo-inositol-3-phosphate synthase is functional in yeast. *J. Biol. Chem.* 279: 21759-21765.
6. Groenen, P.M., et al. 2004. Spina bifida and genetic factors related to Myo-inositol, glucose, and zinc. *Mol. Genet. Metab.* 82: 154-161.
7. Shaltiel, G., et al. 2007. Effect of valproate derivatives on human brain Myo-inositol-1-phosphate (MIP) synthase activity and amphetamine-induced rearing. *Pharmacol. Rep.* 59: 402-407.
8. Einat, H., et al. 2008. Myo-inositol-1-phosphate (MIP) synthase inhibition: *in vivo* study in rats. *J. Neural Transm.* 115: 55-58.
9. Seelan, R.S., et al. 2009. Identification of Myo-inositol-3-phosphate synthase isoforms: characterization, expression, and putative role of a 16-kDa  $\gamma_c$  isoform. *J. Biol. Chem.* 284: 9443-9457.

## CHROMOSOMAL LOCATION

Genetic locus: *Isyna1* (mouse) mapping to 8 B3.3.

## PRODUCT

ISYNA1 (m2): 293T Lysate represents a lysate of mouse ISYNA1 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

ISYNA1 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ISYNA1 antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.